March/April 1979

Lasca Leaves

Los Angeles County Department of Arboreta and Botanic Gardens

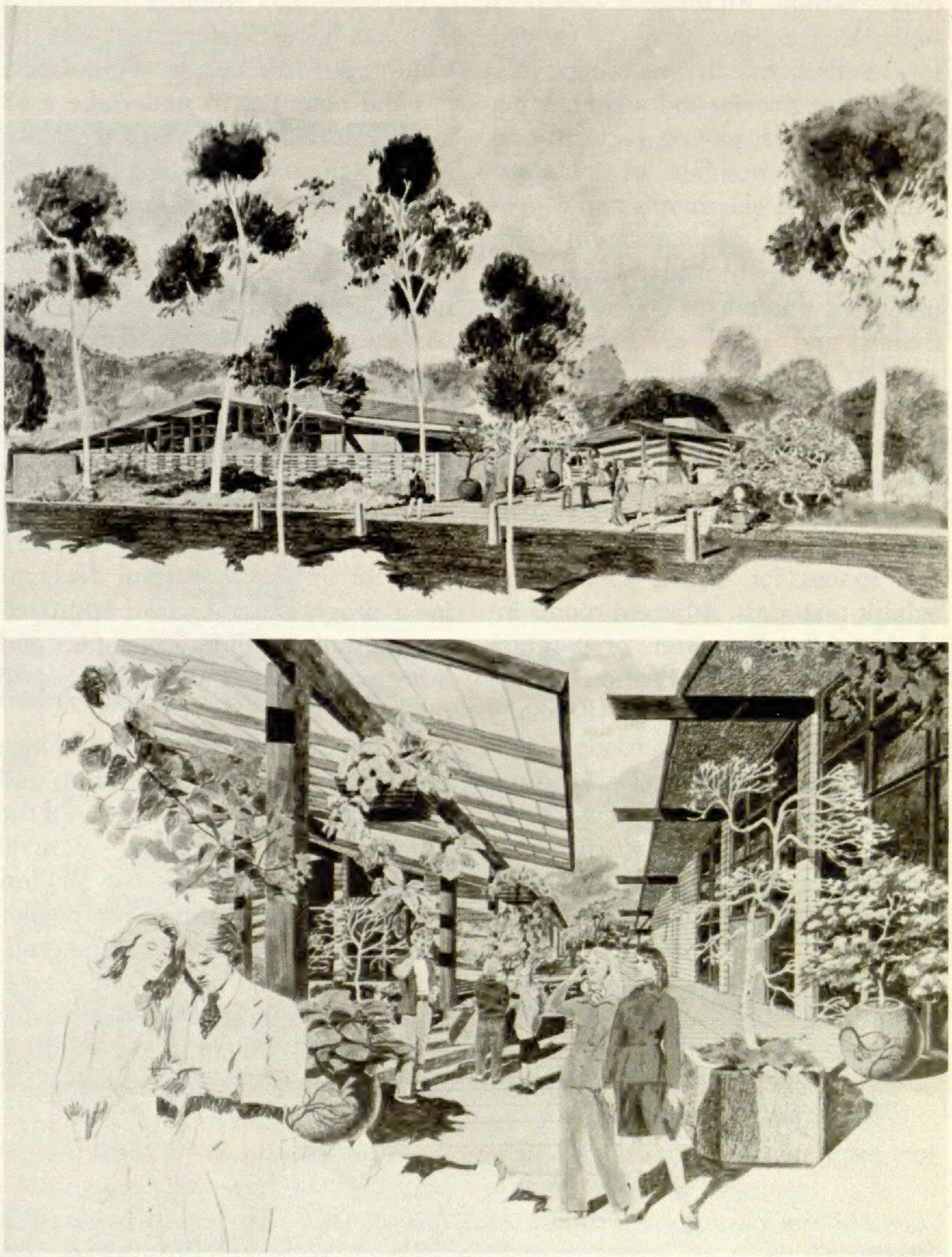
California Arboretum Foundation Trustees Plan For The Future

"THE SUN NEVER SETS on the British flag" used to be a capsule comment on the worldwide scope of the British Empire. A similar saying might be applied today to the Los Angeles State and County Arboretum. No longer merely a Los Angeles institution, the Arboretum in recent years has made its name known and has set a pattern for arboreta and botanic gardens internationally.

With an eye to the 1980s and beyond, the Trustees of the California Arboretum Foundation commissioned an independent consulting firm to prepare a long-range development plan for the Los Angeles State and County Arboretum.

The cornerstone of the development plans calls for the construction of the Hall of Environmental Education, a building already past the planning stage, as the key to other development within the garden.

The need for the building has been well documented; prefabricated structures built years ago as "temporary" and flimsily partitioned basement rooms used for purposes for which they were not intended all contrive to dampen, if not defeat, education and public service programs designed to serve the public. As Director Francis Ching recently stated, "We have found it necessary to turn away many people



Exterior view, above, and view of interior court, below, of proposed Hall of Environmental Education.

Photos by William Aplin

who have come in search of a broader understanding of the plant world. Since the essential function of the Arboretum is based on a continuing investigation of that world together with a public education responsibility, it seems timely and necessary to build the Hall of Environmental Education, a hall for the people."

The Hall of Environmental Education is a collection of special-use buildings consistent in scale and materials with the existing Administration Building, Gatehouse, and Peacock Pavilion. Although a group of separate structures, they are formed into a unit by an enclosing wall, overhanging roofs, and a connecting patio with rich paving patterns and a generous number of planters. Three special classrooms and a generously sized seminar room with flexible wall treatments, will accommodate a number of concurrent activities and small or large study groups. Adjacent to this portion of the Hall will be the greenhouse, an educational laboratory. The main auditorium and multi-use space will have a central folding partition, portable platforms, and generous storage spaces for chairs, tables, and exhibit materials. Adjacent rooms include a kitchen and preparation room. With the unification of the surrounding garden court the many different indoor and outdoor spaces coalesce into an effective environmental hall well suited to a myriad of people-oriented activities, all in celebration of the horticultural and botanic wonder that is the Arboretum.

A final step in the development plan is concerned with establishing program priorities at the Arboretum over the next five years. It takes cognizance of the fact that funding for programs will increasingly have to come from private sources as a result of the passage of Proposition 13.

The future needs of the Arboretum were tested with selected leading community institutions and individuals (and reviewed by the Trustees of the California Arboretum Foundation) to determine priorities for funding. They are:

Youth Education Programs
Adult Education Classes
Library Expansion
Plant Collections and Introductions
Horticultural Displays and Demonstrations
Expanded Public Services and Dissemination of Information
Upgrading and Integration of Physical Plant facilities

It was further determined that the California Arboretum Foundation has the potential to undertake a $5 million development program. Within that program, a short-term priority objective of $1.2 million is envisioned for the Hall of Environmental Education, that figure taking into consideration that $.5 million has already been raised toward construction of the building.

To make the development program a reality, it has been decided that an office of fund development with a full-time director be funded and established to provide the management for the long term development program and to lend appropriate assistance to Board members and other volunteers in the area of fund raising.

In the short space of time since 1947, the Los Angeles State and County Arboretum has surpassed the vision of its originator, Samuel Ayres, Jr., M.D. From the modest sounding aim of putting "more color into the Southern California landscape" there has grown an educational, research, and public service institution to which nearly a million visitors annually come to enjoy the trees, plants, flowers, and landscape features, and to participate in the many public oriented programs.

Not many years ago, a five million dollar plan for the future of such magnitude would have seemed fantastic; today the Arboretum finds it realistic and imperative. The Trustees of the California Arboretum Foundation, Inc., have voted to carry out the plan with all possible dispatch. Gifts are now being invited toward the part of the plan that is needed from private sources. For additional information, please contact Mrs. Leland Larson, President, California Arboretum Foundation, Inc., 301 N. Baldwin Avenue, Arcadia, California 91006. Telephone: 447-8207.

South Coast Fiesta

THIS YEAR'S Fiesta de Flores at South Coast Botanic Garden, to be held the weekend of May 19-20, will follow the direction of last year's highly successful presentation and concentrate on the sale of plants.

Toward this end, Fiesta chairman Cindy Peters has been spending three days a week in one of the garden's greenhouses propagating a variety of plants proven to be popular with the gardening public. Among them are *Chorisia insignis*, the white-flowered floss-silk tree the seeds for which she obtained from the Arboretum, scented-leaf pelargoniums, and a variety of cacti. Among some rare and unusual plants she hopes to have on hand are some bromeliads from Guatemala.

In addition to the plant sale, there will be a number of horticultural demonstrations, notably bonsai and sumi landscape displays by Ben Suzuki, well-known teacher of the bonsai art. On both days there will be continuous demonstrations of how to mount bromeliads on cork. Visitors buying their tillandsias at the Fiesta can have them mounted before leaving. A plant clinic will be in operation each day to which visitors can bring practically any horticultural problem for an answer if not a solution. Hours for this colorful event staged annually by the South Coast Botanic Garden Foundation are 9 to 4 p.m. daily. As in

To the delight of many visitors, film directors have long been attracted to the Arboretum because of its versatility as a location site. With little or no camouflage, they can find such natural-appearing settings as a tropical lagoon, a jungle, an English-type mall, a section of African bush, or a turn-of-the-century mansion. Last fall, Warner Brothers spent ten days preparing and shooting the scenes shown here for use in its forthcoming film, "Roots II."

Those who know the Arboretum well may guess that the above native African scene was shot in the Australian section. They might not guess that the cemetery on the left is actually Tallac Knoll set with styrofoam headstones.

It's not hard to recognize Lasca Lagoon in this scene of a lake in tropical Africa. Ducks, coots, and swans were chased away to avoid creating the wrong image. Scenes from "The African Queen," "Mission Impossible," the "Bionic Woman," and old Tarzan movies are among other motion picture and television productions shot here..

the past, a preview party will be given the evening before the opening for Foundation members and their guests.

March Shows at Descanso

THREE major shows will be presented at Descanso Gardens this month starting with the annual camellia show staged by the Southern California Camellia Council. The dates are March 3rd and 4th. Melvin Gum, president of the Council, reports that visitors can expect to see three to four thousand cut flowers in the tents set up for the show.

On the weekend of March 24th and 25th, the Southern California Daffodil Society will present its 22nd annual show which, like the camellia show, will be a competitive event. In both shows judging will be done on Saturday morning with the exhibits open to the public at noon and from 9 to 5 p.m. Sunday. Jay Pengra, new president of the society, reports that visitors can expect to see around five thousand named varieties encompassing all shapes, sizes and colors known to the species.

The following week, on March 31st and April 1st, the Descanso Gardens Bonsai Society will stage its annual show on the main lawn from 9 a.m. to 5 p.m. both days. The date is a switch from last year when the show was held in September. James Everman, president of the society, expects to have close to 300 plants representing 18 classifications for the display. As in the past, information booths will be set up with members of the society fielding questions from visitors and offering technical guidance on the various aspects of the centuries-old art.

Bonanza IX

IT WAS ON MAY 3RD, nine years ago, that members of the California Arboretum Foundation's Las Voluntarias staged the first Baldwin Bonanza at the Los Angeles State and County Arboretum. It was billed as a "unique treasure sale," as indeed it was, offering old books and paintings from the Baldwin era, numerous handcrafted objects, and many plants. Since that time, the event has evolved mainly into a plant sale, and in succeeding years, as more and more unusual and hard-to-get plants were offered, word went out that this is an an annual fund-raiser not to be missed. As a result, crowds worthy of a major film premiere have lined up outside the entry gates before the standard 9 a.m. opening, waiting to fill their bags, crates, and fugitive shopping carts with every plant goody striking their fancy.

This year, the opportunity comes on Sunday, May 6th. According to co-chairmen Marj Roos and Carol Overturf, both members of Las Voluntarias, buyers can look forward to all of the standard popular plant material offered last year plus a larger-than-usual collection of plants in the uncommon category. Referred to Superintendent John Provine for a rundown on what these might be, we learned there will be a large selection of various species of staghorn ferns mounted on 8-, 10-, 12- and 16-inch boards, some rare echeverias, some flowering anthuriums, many species of cycads, plus a good selection of erythrinas and Arboretum plant introductions.

Mr. Provine said there will be the usual selection of fruit trees, the usual five thousand colorful pelargoniums, a sizable collection of miniature roses, and a larger-than-usual variety of orchids. He said also that this year's Bonanza would offer more plant specimens in larger sizes, citing plenty of house plants in 12-to 14-inch tubs as an example.

Chairman Roos said that other standard features would include craft items and raffle prizes and that on the evening of May 5, the now traditional preview party would be given for Foundation members and their guests.

Baldwin Bonanza

PREVIEW PARTY

For Members and Guests of the
California Arboretum Foundation

Saturday, May 5, 1979
5:30 - 8 p.m.

Arboretum Plant Introductions

Platyceriums (Staghorn Ferns)
Anthuriums
Cycads
Polyscias
Erythrinas
House Plants
Pelargoniums
Orchids

301 North Baldwin Avenue, Arcadia, CA 91006

(*LASCA continues after page 40*)

PLANT PORTRAITS

Araucaria: Pines of the Southern Hemisphere

Gary Cromwell

BUNYA-BUNYA, Star-Pine, Klinki, Monkey Puzzle Tree. Such exotic common names refer to species of *Araucaria,* one of two genera belonging to the family Araucariaceae. Araucarias are graceful evergreen coniferous trees now limited naturally to the southern hemisphere, including eastern Australia, New Caledonia, New Guinea, New Hebrides, Norfolk Island, Argentina, Chile, Brazil, and Paraguay.

The name "Araucaria" is derived from two sources: the prefix stems from Arauco, a province of southern Chile, and *ria* is Spanish for river mouth. The genus was named by A. L. de Jussieu, a French botanist who described the plants in his Genera Plantarum of 1789. Araucarias are members of the order Pinales and are believed by botanists to be related to the true pines (genus *Pinus).* At one time, some of the species were called pines; for example, *Araucaria angustifolia* is the Parana-Pine or Candelabra Tree, which dominates a large forested area in South America from southern Brazil into Paraguay and northern Argentina.

Numerically, this genus is not a large one. Estimates of extant species and varieties are from 12 to about 18. Most occur naturally in the Australian-New Caledonian area of the world, and none exist on islands east of New Zealand. Where they occur, *Araucaria* forests tend to be sparse in numbers and the trees

This 27-year-old bunya-bunya tree (Araucaria bidwillii) is located south of the Arboretum entrance pool.

Photo by William Aplin

often form isolated towerlike habits.

Araucarias may attain a height of 200 feet in their natural ranges. Under cultivation in subtropical or temperate regions, height of the trees may range from 20 to 80 feet or more. According to one eyewitness, some Norfolk Island-Pine *(Araucaria heterophylla)* specimens in Hawaii grow to 150 feet. Juvenile forms of different species may resemble one another, at least until they attain a height of about 30 to 40 feet. Mature trees are distinctive in both height and appearance.

Nearly every species of *Araucaria* has an interesting growth pattern. Because the general form of the trees is more or less symmetrical, they make outstanding skyline specimens. Large branches are thick and few in number. They are spirally arranged or whorled around the main stem and bear secondary branches called branchlets. With age and sufficient growth, branches may lose their erect posture and become pendulous. Leaves are mostly dark green, glossy, and stiff. They may be nearly linear to lanceolate to triangular, with a decurrent base (extending down along the axis) and a pointed tip. As the leaves of so many species are prickly, one is advised to squeeze gently when handling the branchlets. Leaves are densely and uniformly arranged around the branchlets, often are two-ranked, and are dimorphic (having two different forms). Juvenile leaves tend to be larger and more spreading in relation to the branchlet and adult leaves may be either slightly open or closely appressed and overlapping on the branch axis.

Araucarias do not shed individual leaves; instead, they gradually drop the smaller branchlets, which accumulate around the tree base. Branchlets of such species as the Bunya-Bunya or Bon-Yi *(A. bidwillii)* and the Hoop-Pine *(A. cunninghamii)* are regarded as favorite decorative materials by fanciers of dried plant arrangements.

The plants mostly are dioecious (sexes occur on separate plants). Male cones are cylindrical and catkin-like, with numerous spiral overlapping cone scales called microsporophylls. They are situated terminally on branches, either singly or in clusters. Female cones are globose to cylindrical and larger, with their cone scales or macrosporophylls in a continuous spiral series with the leaves. When mature, the large female cones shatter and thereby release their extraordinarily large wingless seeds. The female cone scale with its associated indistinct bract is shed as a unit.

Technical differences in reproductive structures are the most important factor considered by taxonomists in segregating the araucarias from the true pines; for example, *Araucaria* species usually have only one seed per cone scale while members of the pine family most often bear two or more seeds on each scale. There also are cellular differences in the immature seeds of both groups.

Araucarias can be cultivated as are other conifers, although they tend to be more cold sensitive. The trees will survive in thin soils and will withstand neglect, but they thrive better in richer soil with moderate watering. Propagation may be by seeds, cuttings, or grafting. The grower should be aware that seeds of most species are short-lived. Additionally, it is best to consider species growth requirements before selecting a specimen.

These plants are highly regarded for their timber and ornamental value in the southern hemisphere and as a source of industrial resins. As is the case with *Pinus* in the northern hemisphere, araucarias are one of the most important timber sources south of the equator. Especially valuable for furniture manufacturing and multiple construction uses are *Araucaria angustifolia* (Argentina), *A. araucana* (Chile), *A. bidwillii* (Australia), *A. cunninghamii,* (Australia), *and A. klinkii* (New Guinea). The seeds of *A. angustifolia, A. araucana, A. bidwillii,* and perhaps other species are edible.

Among the more famous in the genus is *Araucaria araucana.* As a sapling, it has a pyramidal shape and open branches. Older trees have a bizarre mass of twisting, ropelike branches which seem to defy climbing, hence the name Monkey Puzzle Tree. It does best in moist coastal air and soil but must be containerized for home gardens in the desert. *A. araucana* is slow-growing, about one foot annually. In cultivation, it may reach a height of 80 to 100 feet.

Another species of exceptional ornamental value is the New Caledonia-Pine, *A. columnaris,* also known as *A. cookii.* This tree is preferred by some over *A. heterophylla,* and the two species may be confused by the amateur horticulturist. New Caledonia-Pine is a tall columnar tree, reaching to a height of 200 feet on its native island. Juvenile leaves are broadly needlelike and adult leaves are oval to triangular. Leaves of this species are a deeper green but about the same size as those of *A. heterophylla.* New Caledonia-Pine is also found naturally on small islands of the New Hebrides.

The Los Angeles State and County Arboretum currently has three species in its collection and expects to acquire additional representatives. *Araucaria* trees included at present are the Bunya-Bunya *(A. bidwillii),* the Hoop-Pine *(A. cunninghamii,)* and the Norfolk Island-Pine or Star-Pine *(A. heterophylla).* Bunya-Bunya is an Australian tree of moderate growth, reaching a mature height of 80 to 100 feet in botanic gardens. It has a rounded top and long pendulous branches, and it casts dense shade. Branches are characterized by alternating segments of larger juvenile leaves and smaller oval mature leaves. *A. bidwillii* may be seen south of the Arboretum's administrative complex, just west of the road leading to the

lower lagoon, and in the Australian sector west of the service yard.

Hoop-Pine, another Australian native, may reach a height of 100 feet when grown in the north. It is readily identified by its elongate upswept branches, tufts of leaves at branchlet tips, and its awl-like overlapping leaves which clasp the branchlets. Several 30-foot specimens of *A. cunninghamii* are growing in the Australian section northwest of the research building.

Among the most beautiful species in the Arboretum's collection is the renowned Norfolk Island-Pine, sometimes called Star-Pine. A fine young specimen may be seen adjacent to the fence on the south side of the Santa Anita Depot. This species is indigenous to Norfolk Island, in the Tasman Sea east of Australia. It grows moderately in cultivation to around 100 feet tall, with a habit of a nearly perfect pyramid. All of its leaves have acutely pointed tips; the juvenile ones are narrow, short and curved and the adult leaves are fairly triangular, compact and crowded. It may be containerized outdoors in warmer climates and enjoyed as a house plant in colder areas. It was introduced into the Hawaiian Islands about the 1860s and is still widely used there as a Christmas tree.

Fossilized parts of *Araucaria* trees have been found in New Zealand and Antarctica. These plants are thought to have been once widespread in North America, Europe, Asia, South America, and even to have forested parts of Africa and Antarctica. Araucarian ancestry probably dates back 150 to 200 million years to the late Paleozoic or early Mesozoic eras. If this is so, these early trees probably flourished during the age of great reptiles or dinosaurs, in the Jurassic and Cretaceous periods of the Mesozoic era. Also, accumulating *Araucaria* fossil evidence lends support to the theory that the continents of South America, Australia, and Antarctica may

This specimen of Norfolk Island pine (Araucaria heterophylla) was planted from a 15-gallon can in 1971 and is already over 20 feet high. It is growing next to the restored Santa Anita Depot in the Arboretum historical section.

Photo by William Aplin

have been connected in prehistoric times as part of an ancient continent referred to by natural historians as Gondwanaland.

Why did the ancent araucarias presumably die out in such large numbers? No one knows for sure. Could the gradual cooling and drying of the earth over millions of years have limited the occurrences of trees adapted to a warmer moister climate, or did mountain-building or a series of catastrophic events in nature ultimately cause their decline? At least the climatic changes seem to have been a factor promoting the extinction of the dinosaurs. Botanists have considered the possibility also that the araucarias may have failed to continue to distribute themselves successfully because of their large cones and exceptionally large seeds. Both of these features are regarded as primitive in living conifers, and large seeds as a rule are difficult to disperse. It seems fortunate for us that some of them survived, for they deservedly are treasured ornamentals.

Gary Cromwell is a biologist and plant taxonomist in the Department's Research Division.

CALENDAR

MARCH, APRIL, AND MAY

LOS ANGELES STATE AND COUNTY ARBORETUM, Arcadia

MARCH 10, 11—9 a.m. to 5 p.m.
Cactus and Succulent Show
Presented by San Gabriel Valley Cactus and Succulent Society

MARCH 11—2 p.m.
Sunday Afternoon Lecture
Exotic Economic Plants
Dr. Enari, Arboretum senior biologist

MARCH 16 — 8 p.m.
Theodore Payne Foundation Lecture
"Effects of Air, Water, Land on Natives" James Roof, former director, Tilden Botanical Garden, Berkeley

MARCH 31, APRIL 1—9 a.m. to 5 p.m.
Aril Show
Presented by Aril Society

APRIL 1 — 2 p.m.
Sunday Afternoon Lecture
Medicinal Plants Used by American Indians
Gary Cromwell, Arboretum biologist

APRIL 21, 22 — 9 a.m. to 5 p.m.
Amaryllis Show
Presented by Amaryllis Society

APRIL 22 — 10 a.m.
Sunday Morning Walk
Groundcovers
Charles Lee, Arboretum horticultural consultant

APRIL 22 — 2 p.m.
Sunday Afternoon Lecture
Growing and Using Annual Plants
Ronald Call, Arboretum education specialist

APRIL 28, 29 — 9 a.m. to 5 p.m.
Pacific Rose Show
Presented by Pacific Rose Society

MAY 6 — 9 a.m. to 4 p.m.
Baldwin Bonanza
Presented by California Arboretum Foundation

MAY 20 — 9 a.m. to 5 p.m.
Epiphyllum Show
Presented by Epiphyllum Society

MAY 26, 27 — 9 a.m. to 5 p.m.
Santa Anita Bonsai Show
Presented by Santa Anita Bonsai Society

DESCANSO GARDENS, La Canada

MARCH 3, 4 — Sat., 12 a.m. to 5 p.m. Sun. 9 a.m. to 5 p.m.
Camelia Show
Presented by Southern California Camellia Council

MARCH 24, 25 — Sat., 12 a.m. to 5 p.m. Sun. 9 a.m. to 5 p.m.
Daffodil Show
Presented by Southern California Daffodil Society

MARCH 31, APRIL 1 — 9 a.m. to 5 p.m.
Bonsai Show
Presented by Descanso Gardens Bonsai Society

APRIL 29 — 10 a.m.
Sunday Morning Walk
Native Plant Section
Don Graf, senior tour guide

MAY 17 — 10 a.m. to 4 p.m.
Paseo Por Descanso
Presented by Descanso Gardens Guild
(Reservation deadline, May 11)

SOUTH COAST BOTANIC GARDEN, Palos Verdes Peninsula

MARCH 4 — 2 p.m.
Colorful Spring Plantings and Baskets Demonstration
Rocky Marshall, Crest Nursery

MARCH 11 — 2 p.m.
Orchids for the Amateur
Jerry Rehfield, president, South Bay Orchid Society

MARCH 18 — 2 p.m.
Flower Arrangements
Mazie Jeanne George, president, South Coast Camellia Society

MARCH 21 — 2 p.m.
A Safari to Your Backyard
Jess Morton, president, Palos Verdes Audubon Society

MARCH 25 — 10 a.m.
Sunday Morning Walk
Aquatic Plant Section
Edward Hartnagel, assisant superintendent

APRIL 1 — 2 p.m.
How Our Ancestors Prepared Cotton, Linen, Wool, etc. At Home Demonstration, Carolyn Osborne

APRIL 22 — 2 p.m.
How To Divide Dahlia Bulbs
Fred McKelvey, Inglewood Dahlia Society

APRIL 29 — 2 p.m.
Spring Concert
Richard Schwalbe, director
Palos Verdes Symphonic Band

MAY 6 — 2 p.m.
Crafts and Arts People Can Do At Home
Fred Rompage

MAY 19, 20 — 9 a.m. to 5 p.m.
Fiesta De Flores
Presented by South Coast Botanic Garden Foundation

MAY 26, 27, 28 — 10 a.m. to 5 p.m.
Cactus and Succulent Show
Presented by South Coast Cactus and Succulent Society

MAY 27 — 2 p.m.
Demonstration on How to Graft A Cactus
Presented by South Coast Cactus and Succulent Society